

REMARKS

Claims 1, 5-9, 11, 14-18 and 21-32 are pending in the present application. By this reply, claim 32 has been added. Claims 1, 11, 18 and 28-31 are independent claims.

Allowable Subject Matter

Applicants appreciate the Examiner's indication that claims 28-30 are allowed over the prior art of record.

Claims 6 and 24 have been indicated as objected to, but allowable.

35 U.S.C. § 102 Rejection

Claims 1, 11, 18, 27 and 31 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Lee et al. (U.S. Patent No. 6,323,523, hereinafter Lee). This rejection, insofar as it pertains to the presently pending claims, is respectfully traversed.

Regarding independent claims 1, 11, 18 and 31, the Examiner refers to Fig. 3A of Lee and equates Applicants' second active region to Lee's p⁺ guard ring 110B or p⁺ diffusion 124 in the n-well 120. However, in Lee as shown in Fig. 3A, there are at least three different impurity regions 110B, 124, and 124 between the source region 201A and the drain region 101A. In clear contrast, in Applicants' embodied invention as shown in Fig. 3, there is only a single

second active region 201 between the two first active regions 200 and 200.

Therefore, Lee fails to anticipate, *inter alia*:

a single second active region of a predetermined conductive type formed additionally between the first active regions, wherein the second active region includes an n+ junction connected to Vcc reference voltage or a p+ junction connected to ground Vss, and is without a gate, a source and a drain

as recited in independent claim 1;

a single predetermined conductive type second active region formed between two of the first active regions, wherein the predetermined conductive type second active region includes an n+ junction connected to Vcc reference voltage, and is without a gate, a source and a drain

as recited in independent claim 11;

a single second active region of a predetermined conductive type, formed between the first active regions, wherein the predetermined conductive type second active region includes a p+ junction connected to ground Vss, and is without a gate, a source and a drain

as recited in independent claim 18; and

a single second active region of a predetermined conductive type, formed between the first active regions, wherein the predetermined conductive type second active region includes a p+ junction connected to ground Vss

as recited in independent claim 31.

Accordingly, independent claims 1, 11, 18 and 31 and their dependent claims (due to their dependency) are patentable over Lee, and the rejection should be withdrawn.

Claims 11, 14, 15 and 16 have been rejected under 35 U.S.C. 102(b) as being anticipated by Kim. This rejection, insofar as it pertains to the presently pending claims, is respectfully traversed.

Regarding independent claim 11, the Examiner refers to Figs. 2 and 3 of Kim and equates Kim's n⁺ guard ring 64 to Applicants' second active region as recited in claim 11. However, as shown in Fig. 2, in Kim, between the two transistors 30 and 50, there are a plurality of impurity regions 42, 44, 64 and 62. In clear contrast, in Applicants' invention, there is a single second active region between two of the first active regions, as set forth in claim 11. Therefore, Kim fails to anticipate at least the above-noted feature of claim 11.

Accordingly, independent claim 1 and its dependent claims (due to their dependency) are patentable over Kim and the rejection should be withdrawn.

35 U.S.C. § 103 Rejection

Claims 1, 5, 7-9, 18, 21-23, 25-27 and 31 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsukude in view of Ito and Lin. This rejection, insofar as it pertains to the presently pending claims, is respectfully traversed.

Regarding independent claims 1, 18 and 31, the Examiner alleges that Tsukude discloses Applicants' claimed invention by referring to the structure shown in Fig. 8 of Tsukude. The Examiner correctly acknowledges that Tsukude's impurity region 16e (equated by the Examiner to Applicants' second active region) is an n+ impurity region connected to ground VSS. In contrast, Applicants' invention requires, *inter alia*, the second active region having an n+ junction connected to Vcc reference voltage (claim 1), or the second active region including a p+ junction connected to ground Vss (claims 18 and 31). This feature is absent from Tsukude as acknowledged by the Examiner.

To overcome this deficiency of Tsukude, the Examiner further relies on Fig. 2 of Ito for teaching a P-type MOS transistor with an n-type substrate and a p-type active region. The Examiner states on page 5 of the final Office Action that "in view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Tsukude by reversing the conductivity types of the substrates and active regions, thereby obtaining a second active region with a p+ junction connected to ground Vss." Applicants respectfully disagree.

Although one skilled in the art would recognize changing an n-type element to a p-type element or vice versa may be allowed, generally along with such changes, the type of reference voltage applied thereto is switched. In other words, switching only the impurity type of the impurity region 16e shown in Fig. 8 of Tsukude to a p-type (without considering the voltage type applied) is

not obvious since the application of different voltage to each of the impurity regions would also need to be considered and modified to render the overall device operative. Therefore, the modification suggested by the Examiner is not obvious. Furthermore, even if the n+ type impurity region 16e shown in Fig. 8 of Tsukude is changed into a p-type impurity region 16e connected to ground Vss, such modification does not anticipate an n+ junction connected to Vcc reference voltage as required in some of the independent claims.

Furthermore, Lin does not overcome these deficiencies in the combination of Tsukude and Ito since Lin is merely relied on for teaching a guard ring.

Therefore, it is improper to combine these references as suggested by the Examiner and the independent claims and their dependent claims (due to their dependency) are patentable over the references. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Claim 17 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of Lin. This rejection, insofar as it pertains to the presently pending claims, is respectfully traversed.

As discussed above, Lee fails to teach or suggest, *inter alia*, a single predetermined conductive type second active region formed between two of the first active regions, wherein the predetermined conductive type second active region includes an n+ junction connected to Vcc reference voltage, and is without a gate, a source and a drain, as set forth in claim 11 from which claim

17 depends. Furthermore, Lin does not overcome this deficiency of Lee since Lin is merely relied on for teaching a guard ring. Therefore, the combination of references, assuming *arguendo*, fails to teach or suggest the invention as recited in independent claim 11 and its dependent claim 17. Accordingly, the rejection should be withdrawn.

New Claim

Claim 32 is patentable over the prior art of record for at least the same reason that its independent claim 18 is patentable as discussed above.

CONCLUSION

For the foregoing reasons and in view of the above clarifying amendments, Applicants respectfully request the Examiner to reconsider and withdraw all of the objections and rejections of record, and earnestly solicit an early issuance of a Notice of Allowance.

Should there be any outstanding matters which need to be resolved in the present application, the Examiner is respectfully requested to contact Esther H. Chong (Registration No. 40,953) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

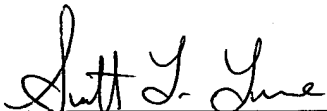
Applicant(s) respectfully petitions under the provisions of 37 C.F.R. § 1.136(a) and 1.17 for a two-month extension of time in which to respond to the

Examiner's Office Action. The Extension of Time Fee in the amount of \$420.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASH & BIRCH, LLP

By  #41,458
Joseph A. Kolasch, #22,463

P.O. Box 747
Falls Church, VA 22032-0747
(703) 205-8000

JAK/EHC:lmh